

Year 11 Chemistry 7: Organic Chemistry Knowledge Organiser



1. Carbon compounds as fuels and feedstock		2. Alkanes	2. Alkanes			3. Fractional distillation	
Hydrocarbon	A chemical made of only carbon and hydrogen	General formula		C_nH_{2n+2}	1.	The column is cooler at the top than the bottom	
Crude oil	A mixture of hydrocarbons found in rock	Name	Molecular formula	Displayed formula	2.	The crude oil is heated	
Alkanes	Saturated hydrocarbons (without double bond)	Methane	CH ₄	H H	3	The fractions evaporate and rise up the column	
Alkene	Unsaturated hydrocarbon (with double bond). They turn bromine water from brown to colourless.			н—С—н н	4	The fractions condense at different points according to their boiling point	
Fractional distilla- tion	A process of separating crude oil using the different boiling points of fractions	Ethane	C ₂ H ₆	н н нсн	5 The liquid fractions run off and are col- lected		
Viscosity	How thick a liquid is			НН		Refinery gases	
Flammability	How easily a fraction catches fire	Propane	C ₃ H ₈	н н н 	Bottled gas		
Boiling point	The temperature at which a substance turns from a liquid to a gas			н—сс—сс—н н н н	Cool (25	°C) Gasoline	
Combustion	A reaction where a fuel is oxidised releas- ing heat energy	Butane	C₄H ₁₀			Kerosene	
Cracking	Breaking less useful long-chain alkanes into useful short-chain alkanes and al- kenes					Aircraft fuel Diesel	
4. Properties of hydrocarbons		5. Cracking	5. Cracking			rude oil	
Property	Change as carbon change gets longer	Type of crac	king	Conditions	Hot (350	•C) Fuel oil Fuel for ships power stations	
Boiling point	Increases	Catalytic		Hot (500°C) + catalyst		Bitumen	
Viscosity	Increases (less runny)	Steam		Very hot (850°C) + Steam		Bitumen for roads & roofs	
Flammability	Decreases	Short chain :	= desirable	Long chain = undesirable			